

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF MISSOURI  
EASTERN DIVISION**

WATER TECHNOLOGY, LLC	)	
and WATER TECH. CORP.,	)	
	)	
Plaintiffs/Counterclaim Defendants,	)	
	)	Case No. 4:17-cv-01906-AGF
	)	
v.	)	
	)	
KOKIDO DEVELOPMENT LIMITED	)	
and MENARD, INC.,	)	
	)	
Defendants/Counterclaim Plaintiffs.	)	

**MEMORANDUM AND ORDER**

This patent case is before the Court on Defendants’ motions for summary judgment based on theories of literal non-infringement (ECF No. 228) and prosecution history estoppel (ECF No. 149). For the reasons set forth below, Defendants’ motion with respect to literal non-infringement will be denied. Defendants’ motion asserting prosecution history estoppel will be granted.

**BACKGROUND**

This case involves swimming pool vacuum cleaners. Plaintiffs are Water Technology, LLC and Water Tech. Corp. (“Water Tech”), makers of the Pool Blaster, Catfish, Leaf Vac, and Aqua Broom pool vacuums. Defendants are Kokido Development Limited (“Kokido”), maker of Telsa and Vektro pool vacuums, and retailer Menard, Inc. (“Menard”). In June 2017, Water Tech filed a complaint asserting that Kokido’s products, sold by Menard, infringe five Water Tech patents. Defendants filed a counterclaim seeking

declaratory judgment of non-infringement and invalidity. Water Tech dismissed its infringement claims with respect to two patents. Of the remaining three patents in suit, the subject of the present motions is U.S. Patent No. 6,939,460, titled Portable Electric Pool Cleaner, issued September 6, 2005, which is a utility patent for a hand-held, battery-powered, submersible pool cleaner (the '460). Kokido's accused products are also hand-held, battery-powered submersible pool cleaners.

As relevant here, the '460 patent claims the following:

1. A pool cleaning kit comprising:

a hand-held submersible electrically-powered pool cleaner including:

a nozzle;

a **toroidal** body having:

a carrying handle **for carrying, manipulating, and directing the cleaner during use, with the carrying handle being integrally formed from an upper portion of the toroidal body and an opening through the toroidal body;**

a rechargeable power source;

an impeller and drive motor powered by the rechargeable power source, and

a filter;

wherein the toroidal body has an intake opening in fluid communication with the nozzle; and

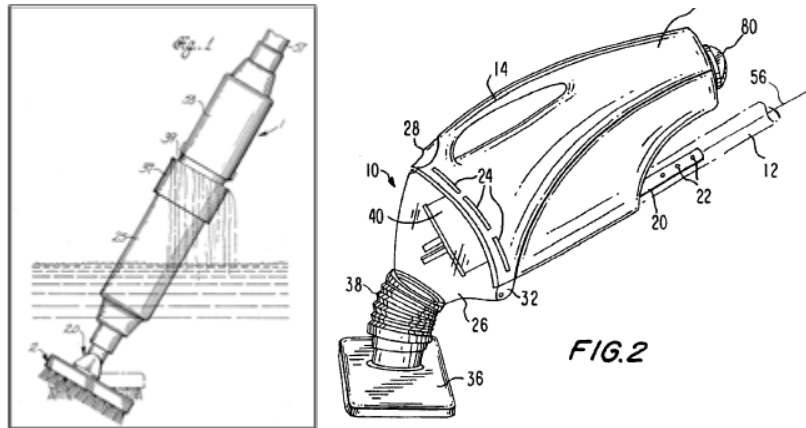
wherein the impeller draws pool water through the nozzle and filter to remove dirt and debris from the pool water; and

a charging device for charging the rechargeable power source.

ECF No. 1-1, Col. 5:55–6:8.

As explained in the Court's Markman order (ECF No. 137), the language in bold was added by amendment in order to distinguish the device from another pool cleaner

known as the Schuman model.<sup>1</sup> *Water Tech., LLC v. Kokido Dev. Ltd.*, 4:17-CV-01906-AGF, 2019 WL 1227714, at \*6 (E.D. Mo. Mar. 15, 2019).



*Schuman*

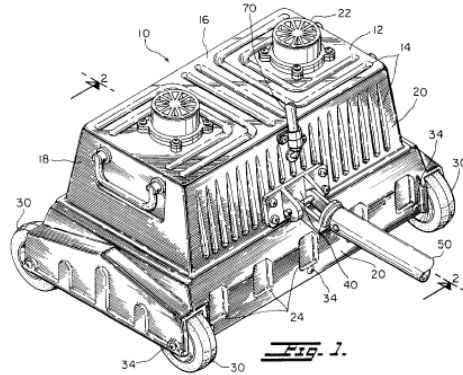
*Water Tech '460*

In the amendment application, Water Tech asserted that Schuman “does not have a toroidal body” and explained that the ‘460’s toroidal body, with a carrying handle formed from an opening in the body, “is more advantageous, since it is easier to grasp as a handle,” causes “little or no strain to the hands of the user,” “allows the pool cleaner to have a more compact shape ... so the claimed invention is more maneuverable,” and, due to the toroidal shape of its body, is “less susceptible to water currents.” ECF No. 88-10.

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<sup>1</sup> U.S. Patent No. 4,962,559. This language was also added to an application for the precursor to the ‘460, namely U.S. Patent 6,797,157 (the ‘157). Water Tech’s original complaint asserted infringement claims as to the ‘157 as well, but those claims were later dismissed. The parties acknowledge that the prosecution history of the ‘157 applies equally to the ‘460. *See, e.g., Ormco Corp. v. Align Tech., Inc.*, 498 F.3d 1307, 1314 (Fed. Cir. 2007) (noting that the prosecution history of a parent patent is relevant to the construction of subsequent patents).

The amendment application also distinguished the ‘460 from vacuums known as the Horvath and Rief models,<sup>2</sup> which were box-shaped and attached to a hose or pole, again explaining that the ‘460 provided a handle and compact shape, improving maneuverability compared to the elongated shapes of the prior art. ECF No. 88-10, p. 11.



*Horvath*

The patent examiner allowed Water Tech’s amendment to the ‘460 patent, reasoning that, although Schuman did have a toroidal body (because a cylinder is a type of toroid), “the prior art fail[ed] to teach or fairly suggest a toroidal body having a carrying handle formed by an opening through the toroidal body for carrying, manipulating, and directing the cleaner during use, with the carrying handle being integrally formed from an upper portion of the toroidal body and an opening through the toroidal body.” ECF No. 88-20.

In its present complaint against Defendants, Water Tech asserts that Kokido’s pool cleaners infringe the ‘460 patent in that they, too, have “a toroidal body having a carrying handle for carrying, manipulating, and directing the cleaning during use, with the carrying

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<sup>2</sup> U.S. Patents No. 5,842, 243 (Horvath) and No. 5,554,277 (Rief).

handle being integrally formed from an upper portion of the toroidal body and an opening through the toroidal body.” As central to the present motions, Water Tech’s initial infringement contentions alleged that Kokido’s Telsa 30 and Telsa 50 models infringed the ‘460 carrying handle. ECF No. 1, Ex. 7 & 8.



*Water Tech Catfish*



*Water Tech Pool Blaster*



*Kokido's Telsa 30*



*Kokido's Telsa 50*

At the Markman phase, this Court construed the term “toroidal body” to mean “a body having a shape related to a toroid,” reasoning that the intrinsic evidence indicated that the inventor envisioned a curved, compact body with a hole through it for a handle, but not a perfect toroid. *Water Tech*, 2019 WL 1227714, at \*7-9, 16. ECF No. 137 at 16, 19, 38. The Court further noted that the patent examiner allowed the inventor’s amendment because, although Schuman did have a toroidal (cylindrical) body, Schuman failed to teach a toroidal body having a carrying handle formed by an opening through the body. *Id.* at \*6. ECF No. 137 at 15-16.

Also at the Markman phase, Water Tech sought to construe the carrying handle claim to mean “formed as a single unit with the body at a portion of the body that is on a different axis than the axis of the body and defining a space between the body handle and the body.” According to this construction, Water Tech asserted that the handle need not be closed but could also be open. The Court rejected this construction, reasoning that the intrinsic evidence consistently described a handle formed by an *opening through* the body such that “space between” is not an accurate substitute. *Id.* at 9. ECF No. 137 at 21. Thus, the Court construed the carrying handle as “an integral handle formed from the upper portion of the body by an opening through the body, i.e., the opening through the body creates the handle from the upper portion of the body.” *Id.* ECF No. 137 at 22.

Notwithstanding this Court’s construction, in its final infringement contentions, Water Tech continues to maintain that the *space between* the handle and the body underneath it constitutes an *opening through* the body such that Kokido’s devices are infringing. ECF No. 150, Ex. 5, 6, 7. Additionally, Water Tech asserts that, even if deemed

not directly infringing, Kokido's handle still infringes the '460 under the doctrine of equivalents because it performs the same function. *Id.* Water Tech's final infringement contentions identify seven Kokido products with open handles, all of them being some variation of those previously shown or the following:<sup>3</sup>



*Kokido's Vektro Z200*



*Kokido's Telsa 80*

Defendants now move for summary judgment on theories of literal non-infringement and prosecution history estoppel. With respect to the motion for summary judgment of non-infringement, Defendants assert that they are entitled to judgment because none of the Accused Devices has a “toroidal body,” which is a limitation of all claims of the '460 patent. ECF No. 228-1, at 1. With respect to Defendants' separate motion for summary judgment based on prosecution history estoppel (ECF No. 149), Defendants

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<sup>3</sup> Specifically, Water Tech's final infringement contentions assert infringement by the Telsa models 05, 30, 50, and 80 and the Vektro models Z200, V300, and X400. Those not pictured above are generally similar to other models shown. The Telsa 05 is a smaller version of the Telsa 30. The Vektro 300 is similar to the Telsa 50. The Vektro X400 is similar to the Telsa 80. ECF No. 150, Ex. 4-10.

assert that Water Tech is estopped to claim that the carrying handle includes open-loop handles as exist in the Accused Devices.

## **DISCUSSION**

### **Summary Judgment Standard**

Summary judgment is appropriate if there are no genuine issues of material fact and the moving party can demonstrate that it is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c). A fact is material if it might affect the outcome of the suit, and a dispute is genuine if the evidence is such that a reasonable jury could return a verdict for the non-moving party. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). A court considering a motion for summary judgment must view the facts in the light most favorable to the non-moving party and draw all reasonable inferences in that party's favor. *IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1429 (Fed. Cir. 2000). Summary judgment is appropriate if the non-moving party fails to make a showing sufficient to establish the existence of an element essential to that party's case and on which that party will bear the burden of proof at trial. *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986).

To prove infringement, a patentee must supply sufficient evidence that the accused product contains every limitation of the claim, either literally or under the doctrine of equivalents. *Eli Lilly & Co. v. Hospira, Inc.*, 933 F.3d 1320, 1328 (Fed. Cir. 2019). Determination of infringement entails a two-step analysis: construction of the claims as a matter of law, followed by application of the claims to the accused device as a question of fact. *Voice Techs. Group, Inc. v. VMC Sys., Inc.*, 164 F.3d 605, 612 (Fed. Cir. 1999). After



claim construction, summary judgment may follow when it is shown that the infringement issue can be reasonably decided only in favor of the movant, even when drawing all reasonable factual inferences in favor of the non-movant. *Id.*

**I. Motion for Summary Judgment of Non-Infringement**

“Literal infringement requires a patentee to prove by a preponderance of the evidence that every limitation of the asserted claim is literally met by the allegedly infringing device.” *Biovail Corp. Int’l v. Andrx Pharmaceuticals, Inc.*, 239 F.3d 1297, 1302 (Fed. Cir. 2001). Defendants assert that Kokido’s devices do not literally infringe the ‘460 because they do not have a toroidal body with the carrying handle being integrally formed from an upper portion of the toroidal body and an opening through the toroidal body. More particularly, Defendants contend that it is the curved shape with the hole in the body that constitutes the “toroid” in the ‘460 and emphasize that Kokido’s devices lack the “donut hole” characteristic of a toroid formed by a closed-loop handle. Water Tech disputes the notion that the opening creating the ‘460 handle is the hole creating the toroid. Further, Water Tech argues that Kokido’s assertion is contrary to the Court’s Markman construction and is essentially an effort to modify that construction. Water Tech insists that Kokido’s products, particularly the Telsa 05 and 30, are infringing because they are cylindrical like the ‘460.

The meaning of “toroidal body” was fully explored at the Markman phase. Water Tech’s expert, David Peterson, stated in his pre-Markman deposition testimony and at the Markman hearing that the body of the ‘460 comprised multiple toroidal shapes, including the lengthwise cylinder and another formed by the carrying handle. *See e.g.*, ECF No.

201-8, ECF No. 136, pp. 53, 67, 74, 97. The patent specification describes a curvilinear body for low resistance. *Water Tech*, 2019 WL 1227714, at \*6. (ECF No. 137, p. 15) In the ‘460 amendment application, Water Tech asserted that Schuman “does *not* have a toroidal body” and explained that the ‘460’s toroidal body, with a carrying handle formed from an opening in the body, “is more advantageous, since it is easier to grasp *as* a handle,” it “allows the pool cleaner to have a more *compact shape* ... so the claimed invention is more maneuverable,” and, due to the toroidal shape of its body, it is “less susceptible to water currents.” ECF No. 88-10. (emphasis added) Ultimately, the Court construed “toroidal body” to mean “a body having a shape related to a toroid.” The Court did not further delimit the meaning of “toroidal” to reference the hole creating the handle.

To advance their current theory that Kokido’s devices are not toroidal in the same sense as the ‘460 for purposes of literal infringement, Defendants refer to another order of this Court, issued after the Markman ruling,<sup>4</sup> whereby the Court dismissed Kokido’s counterclaim for infectious unenforceability. ECF No. 162. In support of that counterclaim, Defendants had argued that Water Tech’s central assertion to the PTO (i.e., that the ‘460 was toroidal while Schuman was not) was deceptive because Schuman’s cylinder is indeed toroidal. This Court rejected Defendants’ allegation of deception, finding that the examiner clearly was not deceived. On the contrary, he recognized that both Schuman and the ‘460 reflected toroidal bodies but allowed the amendment because Schuman did not teach a toroidal body wherein the hole creates a handle. Defendants now

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<sup>4</sup> At the Markman phase, neither party advanced the construction of “toroidal” that Kokido now argues.

invoke this explanation to narrow “toroidal body” to mean *only* the toroid made from the handle. The Court’s Markman definition does not support this interpretation, and the Court sees no need to revisit the matter.

As Water Tech observes, Figure 2 of the ‘460 patent (shown *supra*) discloses at least two “donut holes” that give the device its toroidal shape. One is the opening down the central axis from the rear view — i.e., the cylinder similar to Schuman and Kokido. Another is the opening that creates the handle out of the curvilinear, compact body from the side view. While the Court recognizes that Water Tech now embraces the cylindrical aspect it previously sought to overcome, the only issue now before the Court, as framed by Defendants’ motion, is simply whether Kokido’s devices have “a body having a shape related to a toroid.” On that question, to the extent Kokido’s devices are cylindrical, Defendants’ assertion that they are not toroidal is incorrect. Consequently, Defendants’ motion for summary judgment of non-infringement on the specific theory that their devices do not have toroidal bodies must be denied. Defendants did not advance in this motion a theory of direct non-infringement based on the Court’s construction of the carrying handle element.

## **II. Motion for Summary Judgment based on Prosecution History Estoppel**

With respect to the carrying handle, Water Tech has amended its final infringement contentions to assert that Kokido’s handles infringe the ‘460 under the doctrine of equivalents. In their second motion for summary judgment, Defendants assert that Water Tech’s infringement claims in this respect are barred by prosecution history estoppel.

## **Doctrine of Equivalents**

A device that does not infringe a patent claim literally may still infringe the very same claim under the doctrine of equivalents if every limitation of the claim is literally or equivalently present in the accused device. *Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc.*, 206 F.3d 1408, 1415 (Fed. Cir. 2000). The doctrine of equivalents allows a patentee to claim insubstantial alterations that were not captured in drafting the original patent claim but which could be created through trivial changes. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 535 U.S. 722, 733, (2002) (“*Festo VIII*”). Each element contained in a patent claim is deemed material to defining the scope of the patented invention, so the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole. *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 29, 117 S. Ct. 1040, 1049, 137 L. Ed. 2d 146 (1997).

Equivalence is shown by evidence that the accused device contains an element that is not substantially different from any claim element that is literally lacking, or that the claimed limitation and the accused component perform substantially the same function in substantially the same way to achieve substantially the same result. *Kraft Foods, Inc. v. Int'l Trading Co.*, 203 F.3d 1362, 1371 (Fed. Cir. 2000). In the present case, Water Tech asserts that Kokido’s handle performs the same function, in the same way, for the same result as the ‘460 by allowing the user to grasp the device closer to its body to minimize resistance and reduce strain on the hand. ECF No. 150-5, p. 5-6. Infringement under the doctrine of equivalents is generally a question of fact. *Kraft Foods*, 203 F.3d at 1371.

However, where the evidence is such that no reasonable jury could determine two

elements to be equivalent, district courts are obliged to grant summary judgment. *Zodiac Pool Care*, 206 F.3d at 1415 (Fed. Cir. 2000) (finding that the accused products were “not even close” to the structural limitations stated in the patent). This is so because, when applied too broadly, the doctrine of equivalents conflicts with the definitional and public-notice function of the statutory claiming requirement. *Eli Lilly*, 933 F.3d at 1330. Without the proper balance, the doctrine may take on a life of its own, unbound by the patent claims. *Id.* Thus, it should be the exception, not the rule, nor merely the second prong of every infringement charge, regularly available to extend protection beyond the scope of claims. *Id.* Additionally, the doctrine of equivalents may be further limited by prosecution history estoppel.

### **Prosecution History Estoppel**

When a patentee originally claims the subject matter alleged to infringe but then narrows the claim in response to a rejection, he may not argue that the surrendered territory was unforeseen and should be deemed equivalent to the literal claims of the issued patent. *Festo VIII*, 535 U.S. at 733-34. Rather, by amending a claim, the patentee recognized and emphasized the difference between the two. *Id.* at 734. Prosecution history estoppel is a rule of patent construction requiring that claims be interpreted consistent with PTO application proceedings. *Id.* at 733. It precludes a patentee from regaining, through litigation, coverage of subject matter relinquished during prosecution of the application. *Id.* at 734; *Pharma Tech Solutions, Inc. v. Life Scan, Inc.*, 942 F.3d 1372, 1380 (Fed. Cir. 2019).

Prosecution history estoppel arises when a patent applicant narrows the scope of his

claims during prosecution for a reason substantially relating to patentability. *Eli Lilly*, 933 F.3d at 1330. Such a narrowing amendment is presumed to be a surrender of all equivalents within the territory between the original claim and the amended claim unless the patentee can overcome that presumption. *Id.* The patentee may rebut the presumption of total surrender by demonstrating that it did not surrender the particular equivalent in question, according to three criteria: (1) the equivalent was unforeseeable at the time of the amendment; (2) the rationale for the amendment was only tangential to the equivalent; or (3) there was some reason why the patentee could not describe the substitute in question. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 344 F.3d 1359, 1369-70 (Fed. Cir. 2003) (“*Festo IX*”). If the patentee fails to rebut the presumption of total surrender using these criteria, then prosecution history estoppel bars the patentee from relying on the doctrine of equivalents for the accused element. *Id.* at 1367.

Prosecution history estoppel is a legal limitation on the doctrine of equivalents and is determined by the Court as a matter of law. *Id.* at 1368. Thus, questions relating to the application and scope of prosecution history estoppel, the presumption of surrender, and whether that presumption has been rebutted are all within the Court’s purview, including the resolution of factual issues underlying these legal questions. *Id.*

Here, Water Tech’s amendment added the following language describing the ‘460 carrying handle:

**A carrying handle for carrying, manipulating, and directing the cleaner during use, with the carrying handle being integrally formed from an upper portion of the toroidal body and an opening through the toroidal body;**

ECF No. 88-10, p. 3.

The parties do not dispute that this language narrowed the scope of the claim for substantial reasons related to patentability (i.e., to overcome prior art), creating a rebuttable presumption that Water Tech surrendered all subject matter outside the limitation on “carrying handle” described in the amendment. The parties only dispute whether Water Tech can rebut that presumption. Water Tech claims to do so based on the criteria of tangentiality and unforeseeability.

#### Tangentiality

In applying the “tangential relation” exception, the Court examines “whether the reason for the narrowing amendment was peripheral, or not directly relevant, to the alleged equivalent.” *Ajinomoto Co., Inc. v. Int’l Trade Comm’n*, 932 F.3d 1342, 1354 (Fed. Cir. 2019). The inquiry focuses on the patentee’s objectively apparent reason for the narrowing amendment. *Id.* The patentee must “show that the way in which the alleged equivalent departs from what the claim limitation literally requires is tangential to the discernible objective reason for the narrowing amendment. In that situation, there is no surrender of the equivalent by that amendment.” *Id.* Applying this principle to the present case, Water Tech must show that the way in which Kokido’s handle departs from the ‘460 claim limitation is peripheral to the reason for the amendment. The patentee has the burden to show that it did not surrender the territory between the original claim and the narrowing

amendment, so close questions should be resolved in favor of the accused infringer. *Bosch v. Japan Storage Battery Co., Ltd*, 223 F. Supp. 2d 1159, 1172 (C.D. Cal. 2002).

Here, Water Tech explains that the reason for its amendment was to distinguish the ‘460’s handle, integrated into its compact body for better maneuverability, from the elongated handle of the Schuman model; this purpose was unrelated to whether the handle was closed or open. Thus, Water Tech argues, Kokido’s handle is an infringing equivalent notwithstanding that it is open rather than closed.

Defendants reply that Water Tech is presumed to have surrendered all carrying handles that are not integrally formed from an upper portion of a toroidal body and an opening *through* that body. “It frequently happens that patentees surrender more through amendment than may have been absolutely necessary to avoid particular prior art. In such cases, we have held the patentees to the scope of what they ultimately claim and have not allowed them to assert that claims should be interpreted as if they had surrendered only what they had to.” *Cobalt Boats, LLC v. Brunswick Corp.*, 773 Fed. Appx. 611, 618 (Fed. Cir. 2019). Defendants assert that the difference between the open and closed loop is not tangential; on the contrary, the ‘460’s claim limitation, disclosing a handle formed from an *opening through* the body, directly bears on the alleged equivalent, as Kokido’s handle is open and extends out from the body similar to the handles in the prior art.

The Court agrees with Defendants that the manner in which Kokido’s handles depart from Water Tech’s claim limitation cannot be considered tangential to the reason for the amendment. The amendment claims a handle created by an opening through the compact body to improve maneuverability and reduce strain. Kokido’s Telsa 50 and Vektro 300



have open, angled, L-shaped handles extending from the rear of the device, closer to Schuman (ECF Nos. 150, Ex. 7 & 8), and Kokido's Telsa 80 and Vektro X400 are wholly dissimilar, squat models, closer to Horvath (ECF Nos. 150, Ex. 9 & 10); no reasonable jury could find these devices equivalent in the first place. *Zodiac Pool Care*, 206 F.3d at 1415 (finding the accused products "not even close"). Only the Telsa 05 and 30 and the Vektro Z200 have handles positioned at the upper middle-rear portion of the device, arguably comparable to the '460 in terms of maneuverability. ECF Nos. 4, 5, 6. Even with respect to those, however, the Court is not persuaded that the difference between Kokido's handles and Water Tech's claim limitation is tangential. Kokido's handle *extends out* from the middle-rear body, placing most of the length of the device forward of the user's hand — only a slight improvement over Schuman. In contrast, Water Tech's claimed handle is formed from a closed-loop hole *through* the body; patent figures depict the handle toward the front of the body for shorter length forward of the hand — fully overcoming the longer lever of Schuman. Based on these features, the Court finds that Water Tech's claim amendment, narrowing its handle to one formed by an *opening through* the body, is more than merely tangential to the alleged equivalent of Kokido's open, extending handles. Rather, the difference is material and goes directly to the reason for the amendment, i.e., to distinguish Water Tech's integrated, closed-loop handle from Schuman's long lever. The handle of Kokido's accused devices is "not even close" to the structural limitation stated in Water Tech's carrying handle claim. *See e.g., Zodiac Pool Care*, 206 F.3d at 1416 (concluding that no reasonable jury could find that a stop extending to the peripheral edge of a disc is equivalent to one substantially inward of the same disk).

Notwithstanding the foregoing, Water Tech relies on *Bosch* (cited *supra*) to support its position that the shape of its handle is tangential. There, the patentee of a cordless drill narrowed a claim involving a lever with respect to its location and semi-circular shape, claiming a more compact sliding mechanism over prior art. 223 F.Supp. 2d at 1170-71. The alleged equivalent had an octagonal shape. *Id.* at 1171. To rebut the presumption of estoppel, the patentee argued that the reason for the amendment was primarily related to location rather than shape. *Id.* The court rejected the patentee's argument that shape was tangential because the patentee had canceled another claim rather than narrow it as to shape. *Id.* at 1171-72. The court also concluded that the patentee easily could have drafted a claim to capture different shapes, which were foreseeable to a person skilled in the art. *Id.* Although the *Bosch* non-movant was unsuccessful in rebutting the presumption, Water Tech submits that *Bosch* prescribes a finding in Water Tech's favor on the present facts because its claim limitation only distinguished the length of the handle and not its shape (i.e., open or closed).

This Court does not interpret *Bosch* to support Water Tech's rebuttal and rejects the notion that the '460 claim limitation concerned only length and not shape. In *Bosch*, the prosecution history showed that the purpose of the amendment was to narrow the location of the lever, not its shape. *Id.* at 1171. By contrast, here, Water Tech's '460 claim amendment clearly distinguishes from Schuman both the location *and* formation of the '460 handle. Where Schuman teaches an elongated cylinder with the handle at the end, Water Tech's handle is "integrally formed from an upper portion of the toroidal body and an opening through the toroidal body." In its amendment application, Water Tech

explained that, contrary to Schuman, “the toroidal shape of the body of the [‘460] is more advantageous, since it is easier to grasp *as* a handle.” These descriptions of the ‘460 necessarily and materially implicate shape to overcome Schuman. It is also apparent from the patent figures of the two devices, shown *supra*, that shape was indeed a critical difference. Finally, and in this respect similar to *Bosch*, Water Tech could have drafted its carrying handle limitation to capture an open loop had it so intended, which brings the Court to the question of foreseeability.<sup>5</sup>

#### Unforeseeability

In addition to tangentiality, a patentee may also rebut a presumption of total surrender of the subject matter between the original and amended claim by showing that the alleged equivalent would have been unforeseeable at the time of the amendment and thus beyond a fair interpretation of what was surrendered. *Duramed Pharmaceuticals, Inc. v. Paddock Laboratories, Inc.*, 644 F.3d 1376, 1380 (Fed. Cir. 2011). An alternative is foreseeable if it is disclosed in the pertinent prior art in the field of the invention. *Id.*

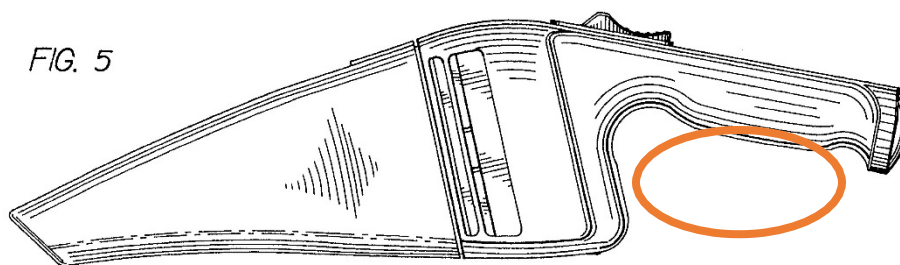
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<sup>5</sup> Water Tech also relies by analogy on *Insituform Techs., Inc. v. CAT Contracting, Inc.*, 385 F.3d 1360, 1370 (Fed. Cir. 2004), involving underground pipe repair vacuum cups. There, the narrowing amendment focused on the *location* of the cups, such that the difference between the claimed single source process and the equivalent’s multi-source process was tangential. Water Tech also cites precedent involving DNA sequencing. *See e.g., Regents of Univ. of Cal. v. Dakocytomation Cal., Inc.*, 517 F.3d 1364, 1378 (Fed. Cir. 2008) (presumption rebutted where amendment was based on the *method* of DNA sequence blocking rather than the particular acid used to do so); *Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1292 (Fed. Cir. 2010) (amendment narrowing universe of partial gene down to a particular virus was only tangential to the question of which DNA sequence was properly characterized as that virus). While these cases are generally instructive as to the legal framework, their holdings based on the specific subject matters at issue are of little guidance to the Court here.

Foreseeability is a question of law based on underlying issues of fact. *Id.* “By its very nature, objective unforeseeability depends on underlying factual issues relating to, for example, the state of the art and the understanding of a hypothetical person of ordinary skill in the art at the time of the amendment.” *Festo IX*, 344 F.3d at 1369. Thus, in determining whether an alleged equivalent would have been unforeseeable, a district court may consider expert testimony and other extrinsic evidence relating to the relevant factual inquiries. *Id.*

Water Tech submits that hand-held pool cleaners did not yet exist in the prior art before the ‘460 application, so the narrower concept of open- versus closed-loop handles was entirely unforeseeable at the time of the amendment. The prior art of Schuman and Horvath disclosed only elongate cleaners with telescoping poles. Defendants reply that open-loop handles were indeed foreseeable at the relevant time, as evidenced by prior art for various hand-held dry vacuums (such as a Dustbuster) in existence well before 2004.

For example:



*U.S. Patent Des. 355,058, issued January 31, 1995*

See ECF No. 150-21, pp. 26-27. Thus, the question hinges on the proper scope of the field of invention.

Generally, the “language of a claim defining an invention defines the field within which foreseeability may be considered.” *Schwarz Pharma, Inc. v. Paddock Laboratories, Inc.*, 504 F.3d 1371, 1377 (Fed. Cir. 2007). Both the Schuman and ‘460 patents define the field of invention as specific to pool cleaners. Water Tech’s expert, Mr. Peterson, opined that a person having ordinary skill in the art would understand air and water vacuums to be separate fields due to the unique challenges of fluid dynamics. But, as the Court reasoned in its Markman order, while the Court appreciates the significance of hydrodynamics as it affects other features of a pool cleaner (e.g., an expulsion element), the Court is not convinced that the difference between a hand-held dust vacuum and a hand-held pool vacuum is material when it comes to the design of the handle. In this respect, an open handle was readily foreseeable at the time of the ‘460 application and amendment.

Foreseeability “does not require the knowledge that the equivalent would satisfy the function/way/result test.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 493 F.3d 1368, 1380 (Fed. Cir. 2007). Given the prevalence of open-handle, hand-held dry vacuums at the relevant time, it is simply not plausible that the ‘460’s inventor could not have envisioned a handle other than the one described in the amended claim, specifying a handle formed by an opening *through* the body. Consequently, the Court finds that Water Tech’s carrying handle limitation effectively surrendered the territory between the original and amended claim, where Kokido’s open handle resides.

In sum, the Court concludes that (1) Defendants are not entitled to summary judgment of non-infringement on the theory that none of Kokido’s devices are toroidal, but

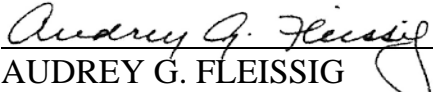
(2) Water Tech's claims of infringement under the doctrine of equivalents are barred by prosecution history estoppel.<sup>6</sup>

### CONCLUSION

For the reasons set forth above,

**IT IS HEREBY ORDERED** that Defendants' motion for summary judgment of literal non-infringement with respect to the '460 patent based on the construction of "toroidal body" is **DENIED**. ECF No. 228.

**IT IS FURTHER ORDERED** that Defendants' motion for summary judgment with respect to the '460 patent on the theory of prosecution history estoppel is **GRANTED**. ECF No. 149.

  
AUDREY G. FLEISSIG  
UNITED STATES DISTRICT JUDGE

Dated this 27th day of January, 2020.

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<sup>6</sup> Although Kokido requested oral argument on both motions, the Court did not find it necessary to hear further argument from the parties on the issues presented in their filings.